



Figure 2

Byte	Direction	Name	Description		
Byte 0	R/W	PSU Summary 0	Power Supply Summary 0		
Byte 1	R/W	PSU Summary 1	Power Supply Summary 1		
Byte 2	R	PSU Status 0	Power Supply Status 0		
Byte 3	R	Reserved	Reserved		
Byte 4	R	3.3V Voltage Reading	Actual voltage on the 3.3V line		
Byte 5	R	5V Voltage Reading	Actual voltage on the 5V line		
Byte 6	R	12V Voltage Reading	Actual voltage on the 12V line		
Byte 7	R	3.3V Current Reading	Actual current on the 3.3V line		
Byte 8	R	5V Current Reading	Actual current on the 5V line		
Byte 9	R	12V Current Reading	Actual current on the 12V line		
Byte 10,11**	R	3.3V Resolution	3.3V Resolution (19.5mV)		
Byte 12,13**	R	5V Resolution	5V Resolution (24.5mV)		
Byte 14,15**	R	12V Resolution	12V Resolution (58.6mV)		
Byte 16,17**	R	3.3A Resolution	3.3V current Resolution (1.17mA)		
Byte 18,19**	R	5A Resolution	5V current Resolution (136.7mA)		
Byte 20,21**	R	12A Resolution	12V current Resolution (195mA)		
Byte 22**	R	PSU Part Number PSU part number also on la			
			PSU		
Byte 37					
Byte 38*	R	PSU Serial Number	PSU serial number also on bar		
•••			code label		
Byte 53					
Byte 54	R	Build Number	A number directly related to the		
Byte 55		revision of the firmware.			

^{*} Permanent data stored in Flash from manufacturing

^{**} Permanent data from Firmware build

Name	Type	Purpose		
SMB_A0, SMB_A1	2 digital inputs	These are used to		
		configure the 2 wire		
		serial address for the		
		microcontroller		
Yellow LED	1 digital LED	Used to control the Fault		
	output	LED		
3.3V, 5V, 12V	6 analog to	These are used to measure		
Monitor IC	digital converter	the current and the		
3.3V, 5V, 12,	(ADC) inputs	voltages on the 3.3, 5		
Imonitor IC		and 12 volt lines		
AC FAIL /	1 digital	Used to detect AC fail		
AC SHUTDOWN	interrupt pin	conditions		
SMB_SCL, SMB_SDA	2 dedicated	Used for the 2 wire I'C		
	digital I/O lines	serial bus interface		
	with serial			
	hardware			
Temp Fail	1 digital	Used to detect a PSU		
	input/interrupt	temperature failure		
3.3V, 5V, 12V	6 digital inputs	Used to detect current		
Fail		and voltage failure on		
3.3V, 5V, 12,		the 3.3, 5, and 12 v		
IFail		lines		
Vref	1 analog reference	Used to determine the		
	voltage	voltages and currents		
		measured on the ADC.		
SCL_MSK, SDA_MSK	2 digital I/O	Used to talk to an EEPROM		
	lines	if a Mask part is used.		
		The EEPROM stores the		
		Part No. Serial No. and		
		the PSU revision.		

Table 2

Command	Command	Data Length	Data Description		
	Byte				
Status	0x01	2 bytes	Status Data to be implemented by the PSU controller		
Error Priority	0x02	The error led information for each error in the PSU controller <i>Note</i> in			
Led Pattern	0x03	8 integers (16 bytes)	bytes) The pattern that each led priority is allocated <i>Note 1</i>		
Scaling Factor	0x04	8 integers (16 bytes)	The scaling factor associated with each analog measurement. <i>Note 1</i>		
Part Number	0x05	16 bytes	The PSU controller board part number <i>Note 1</i>		
Serial Number	0x06	16 bytes	The PSU controller board serial Number <i>Note 1</i>		
Reboot	Oxbb	0 bytes	This will cause the PSU controller to restart		

Note 1 – Without an EEPROM, changes to this information are received and stored in RAM, so everytime the PSU controller is reset this information has to be updated. With an EEPROM, this information is written out to the EEPROM and stored permanently.

Table 7

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Led Status		Enable	Reset AC	Rsvd	Rsvd	Rsvd	
an	and Request		Auto Mode	Fail Latched			
Rsvd	Rsvd	Rsvd	Rsvd	Rsvd	Power Up	Temp Fail	Rsvd
	:				Ack	Latched	

Table 8